

Application No. 10/762,719
Confirmation No. 5215
Art Unit 1756, Examiner Sullivan
Docket No. CL-2287 US NA
August 27, 2007
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In the Claims:

Please (a) rewrite Claims 1, 3, 4 and 6; (b) cancel Claims 2 and 5 without prejudice to or disclaimer of the subject matter thereof; and (c) add new Claims 7~18.

The requested amendments to Claims 1, 3, 4 and 6 are shown below on pages 6~9 of this paper in a marked-up version of those claims, as required by 37 CFR §1.121(c). Deletions are shown by strike-through, and additions are shown by underlining. Also shown on pages 6~9 are new Claims 7~18, and a complete listing of all claims indicating the status thereof.

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Listing of Claims

- [including (i) amendments to Claims 1, 3, 4 and 6,
(ii) new Claims 7~18, and
(iii) status of all claims
(Claims 1, 3, 4 and 6~18 are now active)]

1. (currently amended) A process comprising: ~~a) depositing a patterned film of polymer A on a substrate; b) depositing a thick film paste over the patterned film of polymer A; c) drying of the thick film paste during which the patterned polymer A diffuses into the paste layer thus transferring the pattern to the paste layer; and d) removing the excess thick film paste from area absence of polymer A by exposing the paste layer to a paste developer solution which has peer solubility to polymer A~~ for depositing on a substrate a thick film paste composition that comprises a solvent, comprising

- (a) providing on the substrate a patterned layer of a polymer that is soluble in the solvent,
- (b) depositing the thick film paste composition on the patterned layer,
- (c) dissolving polymer with the solvent to diffuse polymer into the thick film paste composition, and
- (d) removing any thick film paste composition into which polymer has not diffused.

2. (cancelled).

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3. (currently amended) The process of Claim 1 ~~or Claim 2~~ comprising the further step of firing the substrate patterned with the thick film paste composition.

4. (currently amended) The process of Claim 3 further comprising the step of activating the thick film paste composition.

5. (cancelled).

6. (currently amended) The process of Claim 1 wherein the polymer A is selected from the group consisting of phenolic resins, DNQ/Novalac resists, acrylic polymers, polymers with pendent t-butyl groups, polystyrene, and ethyl cellulose.

7. (new) The process of Claim 1 wherein the patterned layer of polymer is printed on the substrate.

8. (new) The process of Claim 1 wherein the polymer comprises a photoresist.

9. (new) The process of Claim 8 wherein the photoresist comprises a positive working photoresist.

10. (new) The process of Claim 1 wherein the solvent comprises an organic solvent.

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11. (new) The process of Claim 11 wherein the organic solvent is selected from one or more of the group consisting of ketones, alcohols, esters, ethers, long chain acetates and aromatics.

12. (new) The process of Claim 1 wherein the thick film paste comprises one or more of a metallic powder, a photo active monomer and an initiator.

13. (new) The process of Claim 1 wherein the thick film paste comprises carbon nanotubes.

14. (new) The process of Claim 1 wherein the step (c) of dissolving polymer comprises a step of drying the thick film paste.

15. (new) The process of Claim 1 wherein the step (d) of removing any thick film paste composition into which polymer has not diffused comprises a step of developing the deposited thick film paste with a developer that has poor solubility to the polymer.

16. (new) The process of Claim 15 wherein the developer comprises an alkaline spray or an ultrasonic treatment.

17. (new) The process of Claim 1 further comprising a step of fabricating an electronic device that comprises incorporating the substrate on which the thick film paste composition has been deposited into the electronic device.

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18. (new) The process of Claim 1 wherein the fabricated electronic device comprises an electron field emitter.